Rec'd PCT/PTO 30 SEP 2004 9 0 / 5 0 9 8 2 6 For receiving Office use only			
	International Application		
REQUEST			
	International Filing Date		
The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.	Name of receiving Office	ce and "PCT International Application"	
according to the Fatent Cooperation Freaty.	Applicant's or agent's file reference (if desired) (12 characters maximum) 43279.52.0		
Box No. I TITLE OF INVENTION			
VENOUS BI-VALVE			
Box No. II APPLICANT This person	on is also inventor		
Name and address: (Family name followed by given name; for a legal en The address must include postal code and name of country. The country of Box is the applicant's State (that is, country) of residence if no State of residen	ine aaaress inaicaiea in inis 🛚	Telephone No. 011 55 11 3812 4561	
		Facsimile No.	
OSSE, Francisco J. Rua Lomas Valentinas, 278		011 55 11 3034 4646	
Alto da Lapa	•	Teleprinter No.	
Sao Pauló - SP		Applicant's registration No. with the Office	
BRAZIL 05084-010			
State (that is, country) of nationality:	State (that is, country) BR	of residence:	
This person is applicant for the purposes of: **States** all designated the United** **Initial designated the United** **This person is applicant to the purposes of:** **Initial designated to the United** **This person is applicant to the purposes of:** **Initial designated to the purposes of:** **Initial designated to the purposes of:** **Initial designated to the purpose of:* **Initial designated to th		the United States the States indicated in the Supplemental Box	
Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)			
Name and address: (Family name followed by given name; for a legal en The address must include postal code and name of country. The country of Box is the applicant's State (that is, country) of residence if no State of reside	the address maicated in this	This person is:	
THORPE Patricia E			
Five Woodland Heights		applicant and inventor inventor only (If this check-box	
lowa City, Iowa 52240		is marked, do not fill in below.)	
US		Applicant's registration No. with the Office	
State (that is, country) of nationality: US	State (that is, country)) of residence:	
This person is applicant all designated all designated	ted States except States of America	the United States of America only the States indicated in the Supplemental Box	
Further applicants and/or (further) inventors are indicated	on a continuation sheet.		
Box No. IV AGENT OR COMMON REPRESENTATIV	E; OR ADDRESS FOR	R CORRESPONDENCE	
The person identified below is hereby/has been appointed to ac of the applicant(s) before the competent International Authoriti	es as:	agent common representative	
Name and address: (Family name followed by given name; for a legal e The address must include postal code and name of	ntity, full official designation. (country.)	Telephone No. (612) 492-7172	
KEOUGH, Steven J. FREDRIKSON & BYRON, P.A.		Facsimile No. (612) 492-7077	
4000 Pillsbury Center		Teleprinter No.	
200 South Sixth Street	•		
Minneapolis, Minnesota 55402 US		Agent's registration No. with the Office 33,190	
Address for correspondence: Mark this check-box whe space above is used instead to indicate a special address	re no agent or common re to which correspondence	presentative is/has been appointed and the should be sent.	

Form PCT/RO/101 (first sheet) (March 2001; reprint January 2003)

Sheet NoZ		
Box No. V DESIGNA OF STATE	CS Mark the applicable check-boxes beld ast one must be marked.	
The following designations are hereby made under Rule 4.9(a):		
Regional Patent	·	
SL Sierra Leone, SZ Swaziland, 7	GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, Z United Republic of Tanzania, UG Uganda, ZM Zambia, ZW Zimbabwe, and any other	
specify on dotted line)	te of the Harare Protocol and of the PCT (if other kind of protection or treatment desired,	
EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT		
EP European Patent: AT Austria, BE Belgium, BG Bulgaria, CH & LI Switzerland and Liechtenstein, CY Cyprus, CZ Czech Republic, DE Germany, DK Denmark, EE Estonia, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, SI Slovenia, SK Slovakia, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT		
OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GQ Equatorial Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)		
National Patent (if other kind of protection	on or treatment desired, specify on dotted line):	
AE United Arab Emirates		
AG Antigua and Barbuda	HR Croatia	
	HU Hungary	
AM Armenia		
	II Israel III Israel III III III III III III III III III I	
	. 🔀 IN India 🔀 RO Romania	
🔀 AZ Azerbaijan	. 🔀 IS Iceland · 🔀 RU Russian Federation	
BA Bosnia and Herzegovina	JP Japan	
BB Barbados	KE Kenya Z SC Seychelles	
BG Bulgaria	KG Kyrgyzstan	
	KP Democratic People's Republic SE Sweden	
M BY Belarus	· mark	
BZ Belize	KR Republic of Korea KA SK Slovakia	
CH & LI Switzerland and Liechtenstein	<u> </u>	
CN China		
CO Colombia	LR Liberia Tunisia	
	LS Lesotho	
CU Cuba		
CZ Czech Republic		
DE Germany		
<u> </u>	MA Morocco	
M DM Dominica	MD Republic of Moldova	
DZ Algeria		
	MKThe former Yugoslav Republic of Z UZ Uzbekistan	
ES Spain		
FI Finland		
GB United Kingdom	MWMalawi	
■ GD Grenada	MX Mexico ZA South Africa	
	MZ Mozambique ZM ZM Zambia	
GH Ghana	NO Norway ZW Zimbabwe	
Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:		
	ā	
Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)		

Form PCT/RO/101 (second sheet) (January 2003)

the request.

- If, in any of the Boxes, except Boxes Nos. VIII(i) to (v) for which Continuation of Box No. IV: a special continuation box is provided, the space is insufficient to furnish all the information: in such case, write "Continuation of Box No...." (indicate the number of the Box) and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient, in
- if more than two persons are to be indicated as applicants and/or inventors and no "continuation sheet" is available: in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III. The country of the address indicated in this Box' is the applicant's State (that is, country) of residence if no State of residence is indicated below;
- if, in Box No. II or in any of the sub-boxes of Box No. III, the indication "the States indicated in the Supplemental Box" is checked: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is applicant;
- (iii) if, in Box No. II or in any of the sub-boxes of Box No. III, the inventor or the inventor/applicant is not inventor for the purposes of all designated States or for the purposes of the United States of America: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is inventor;
- if, in addition to the agent(s) indicated in Box No. IV, there are further agents: in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;
- if, in Box No. V, the name of any State (or OAPI) is accompanied by the indication "patent of addition," or "certificate of addition," or if, in Box No. V, the name of the United States of America is accompanied by an indication "continuation" or "continuation-in-part": in such case, write "Continuation of Box No. V" and the name of each State involved (or OAPI), and after the name of each such State (or OAPI), the number of the parent title or parent application and the date of grant of the parent title or filing of the parent application;
- if, in Box No. VI, there are more than five earlier applications whose priority is claimed: in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI.
- If, with regard to the precautionary designation statement contained in Box No. V, the applicant wishes to exclude any State(s) from the scope of that statement: in such case, write "Designation(s) excluded from precautionary designation statement" and indicate the name or two-letter code of each State so excluded.

BAUMAN, Mary P., Reg. No. 31,926; DOLAN, John F., Reg. No. 45,382; GOLDMAN, Philip M., Reg. No. 31,162 GROENKE, Allen W., Reg. No. 42,608; HALLER, James R., Reg. No. 24,906; KADIEVITCH, Natalie D., Reg. No. 34,196; KEOUGH, Steven J., Reg. No. 33,190; KOHLS, Philip R., Reg. No. 51,891; McMASTERS, Thomas L. Reg. No. 45,593; MILLS, Alicia Griffin, Reg. No. 46,933; NEBLETT, Adonis A., Reg. No. 32,358; PAIGE, James J., Reg. No. 50,886; PARZYCH, John S., Reg. No. 52,097; PISKOLICH, Frank P., Reg. No. 52,123; RUSSELL, Raymond K., Reg. No. 52,185; SEGELBAUM, Charles D., Reg. No. 42,138; SMITH, Kara K., Reg. No. 49,079; SNUSTAD, Eric J., Reg. No. 45,120; TAYLOR, Craig F., Reg. No. 40,199; WEST, David C., Reg. No. 35,735

all of:

FREDRIKSON & BYRON, P.A. 4000 Pillsbury Center 200 South Sixth Street Minneapolis, Minnesota 55402-1425

		Sheet No		
Box No. VI PRIORITE AIM				
The priority of the following	earlier application(s) is here	eby claimed:		
Filing date Number		Where earlier application is:		
of earlier application of earlier application ————————————————————————————————————	national application: —country-or-Member— of WTO	regional application:* regional Office	international application: receiving Office	
item (1) (20.02.2002) 20 February 2002	60/359,021	us		
item (2)				
item (3)				
item (4)				
item (5)				
Further priority claims	are indicated in the Supplem	ental Box.		
The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office) identified above as:				
* Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)):				
Box No. VII INTERNAT	TONAL SEARCHING AU	THORITY		
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):				
ISA /				
Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority): Date (day/month/year) Number Country (or regional Office)				
Box No. VIII DECLARA	rions			
	are contained in Boxes Nos. ate in the right column the nu			Number of declarations
Box No. VIII (i)	Declaration as to the identi	ity of the inventor		: • -
Box No. VIII (ii) Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent :				
Box No. VIII (iii) Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application :				
Box No. VIII (iv) Declaration of inventorship (only for the purposes of the designation of the United States of America):				
Box No. VIII (v)	Declaration as to non-pre	 judicial disclosures or exce	eptions to lack of novelty	<i>,</i> :

Form PCT/RO/101 (third sheet) (July 2002; reprint January 2003)

Sheet No	5
Sheet Ivo	

Box No. IX CHECK I ANGUAGE OF FILING		
This international application contains: (a) in paper form, the following number of sheets:	This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):	Number of items
request (including declaration sheets) : 5	1. Tee calculation sheet	:
description (excluding	2. original separate power of attorney	-:
sequence listings and/or	 3. original general power of attorney 4. copy of general power of attorney; reference number, 	
tables related thereto) : 17	if any:	:
abstract : 1	5. statement explaining lack of signature	:
drawings : 8	6. priority document(s) identified in Box No. VI as item(s):	
Sub-total number of sheets : 29 sequence listings :	7. translation of international application into (language):	:
tables related thereto : 0 (for both, actual number of	8. separate indications concerning deposited microorganism or other biological material	:
sheets if filed in paper form, whether or not also filed in	 sequence listings in computer readable form (indicate type and number of carriers) 	
computer readable form; see (c) below)	 (i) copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application 	ı):
Total number of sheets : 29 (b) □ only in computer readable form	 (ii) (only where check-box (b)(i) or (c)(i) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter 	
(Section 801(a)(i)) (i) sequence listings	(iii) together with relevant statement as to the identity of the copy of copies with the sequence listings mentioned in left column	· or .
 (ii) ☐ tables related thereto (c) ☐ also in computer readable form 	10. tables in computer readable form related to sequence listings (indicate type and number of carriers)	•
(Section 80 I(a)(ii)) (i) ☐ sequence listings	 (i) ☐ copy submitted for the purposes of international search under Section 802(b-quater) only (and not as part of the internationa 	ŀ
(ii) tables related thereto	application)	:
Type and number of carriers (diskette, CD-ROM, CD-R or other) on which are contained the	 (ii) (iii) (only where check-box (b)(ii) or (c)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Section 802(b-quater) 	:
sequence listings:	(iii) together with relevant statement as to the identity of the copy of copies with the tables mentioned in left column	or .
tables related thereto: (additional copies to be indicated under	other (specify): Transmittal Letter; Return Postcard	· : 2
items 9(ii) and/or 10(ii), in right column)	The State (speedy)).	
Figure of the drawings which should accompany the abstract;	Language of filing of the English	
Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).		
Dated: 20 February 2003		
Heren lev	u d	
Steven J. KEOUGH		
For receiving Office use only		
1. Date of actual receipt of the purported international application: 2. Drawings:		
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
Date of timely receipt of the required corrections under PCT Article 11(2):	not	received:
5. International Searching Authority (if two or more are competent): ISA / 6. Transmittal of search copy delayed until search fee is paid		
For International Bureau use only		
Date of receipt of the record copy by the International Bureau:		
L		

Form PCT/RO/101 (last sheet) (January 2003)

This should not part of and does not coun	nt as a sheet of the intermenal application.	
PCT	For receiving Office use only	
FEE CALCULATION SHEET		
Annex to the Request	International Application No.	
Applicant's or agent's	= 	
file reference 43279.52.0	Date stamp of the receiving Office	
Applicant		
OSSE, Francisco J., et al.		
CALCULATION OF PRESCRIBED FEES	· 240.00 [T]	
1. TRANSMITTAL FEE	700.00 [5]	
2. SEARCH FEE		
(If two or more International Searching Authorities are competent to carry search, indicate the name of the Authority which is chosen to carry out the	out the international	
3. INTERNATIONAL FEE	menadolai Search.)	
Basic Fee		
Where items (b) and/or (c) of Box No. IX apply, enter Sub-total	number of sheets } 29	
Where items (b) and (c) of Box No. IX do not apply, enter Total	407.00 b1	
[b1] first 30 sheets		
number of sheets in express of 30 representation of the per sheet	-0- b2	
III excess 01 30	s related	
b3 additional component (only if sequence listings and/or table thereto are filed in computer readable form under Section 8 or both in that form and on paper, under Section 801(a)(ii))	D1(a)(i),	
400 x = =) 1	
	407.00 B	
Add amounts entered at b1, b2 and b3 and enter total at B	. [407.00 [3]	
Designation Fees The international application contains ALL designations.		
5 x 88.00	440.00 D	
number of designation fees amount of designation fee payable (maximum 5)		
Add amounts entered at B and D and enter total at I	847.00 🗓	
(Applicants from certain States are entitled to a reduction of	75% of the	
international fee. Where the applicant is (or all applicants are) so entity to be entered at I is 25% of the sum of the amounts entered at B and	(D.)	
4. FEE FOR PRIORITY DOCUMENT (if applicable)	15.00 P	
5. TOTAL FEES PAYABLE	1802.00	
Add amounts entered at T, S, I and P, and enter total in the TOTAL	L box TOTAL	
The designation fees are not paid at this time.		
MODE OF PAYMENT		
authorization to charge postal money order	cash coupons	
cheque bank draft	revenue stamps other (specify):	
AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT AC	COUNT	
(This mode of payment may not be available at all receiving Offices)	Receiving Office: RO/ US	
Authorization to charge the total fees indicated above.	Deposit Account No.: 06-1910	
(This check-box may be marked only if the conditions for deposit acc	Date: 20 February 2003	
of the receiving Office so permit) Authorization to charge any defic or credit any overpayment in the total fees indicated above.	Name: Steven KEOUST	
Authorization to charge the fee for priority document.	Signature:	
Form PCT/RO/101 (Annex) (January 2003)	See Notes to the fee ediculation sheet	